SOLVED PAPER 2018
SECTION A: ENGLISH

Directions (Q. Nos. 1-15) Read the passage carefully and choose the best answer to each question out of the four alternatives.

Passage

Chameleons can make their skin colour change, but not because they decide to. The colour changes to help the chameleon avoid its enemies. It is a form of camouflage, a disguise that lets it blend in with its surroundings. The changes are actually determined by environmental factors, such as light and temperature.

Bright sunlight causes the skin to get darken. On cool nights, the colour fades to a creamy colour. The colour also changes when chameleons are excited, angry or afraid. The colour change is rapid and increases when the chameleon is harmed, injured or approached by another chameleon. There are many types of chameleons. Almost half of them are found on the African Island of Madagascar. The others mostly occur in the Sahara desert, with few in Western Asia and Southern Europe. Chameleons live in trees; where they usually eat insects. Very large chameleons may even use their sticky tongues to catch birds.

1. A chameleon's colour changes to help it
   (a) fly away   (b) look beautiful
   (c) avoid its enemies   (d) attract prey
2. Chameleons change colour when they are
   (a) excited, angry or hungry
   (b) afraid, excited or angry
   (c) angry, excited or happy
   (d) afraid, angry or hungry
3. The colour changing ability of a chameleon is a form of camouflage which is a
   (a) colour that fades
   (b) disguise that lets it blend in with its surroundings
   (c) disease which affects chameleons
4. The colour changes are determined by
   (a) light and wind
   (b) light and pressure
   (c) light and temperature
   (d) pressure and temperature
5. Half of the world's chameleons are found
   (a) on the Asian Island of Madagascar
   (b) in the Sahara Desert
   (c) on the African Island of Madagascar
   (d) in the continent of Asia

Directions (Q.Nos. 6-8) Fill in the blank with the correct parts of speech from the given alternatives.

6. How much did you spend .... roses?
   (a) in   (b) on
   (c) of   (d) from
7. I could hardly recognise him .... I saw him.
   (a) after   (b) but
   (c) and   (d) when
8. Our teacher encouraged .... setting the poem to music.
   (a) his   (b) him
   (c) he   (d) he's
9. Choose the correct passive from of the given sentence from the following
   Don't subject the animals to cruelty
   (a) The animals are not to be subjected to cruelty
   (b) The animals shall not be subjected to cruelty
   (c) The animals will not be subjected to cruelty
   (d) The animals should not be subjected to cruelty

Directions (Q. Nos. 10 and 11) Fill in the blanks with a suitable clause to complete the sentences

10. No one knows ....
    (a) who he is   (b) whom he is
    (c) why he is   (d) when he is
11. She will not let you go ....
    (a) unless you will bless her
    (b) unless you do not bless her
    (c) unless you bless her
    (d) if you bless her

Directions (Q. Nos. 12 and13) Choose the one word which can be substituted for the given words/sentences.

12. That which can be drunk.

13. Something that is beyond the power of nature.
    (a) Supernatural   (b) magical
    (c) preternatural (d) unnatural

(a) edible   (b) palatable
(c) culpable   (d) potable

Directions (Q. Nos. 14 and15) In the following questions choose the word opposite in meaning to the given word.

14. Boisterous
    (a) Naughty   (b) Quiet
    (c) Reserved   (d) Bouncy
15. Veteran
    (a) Activist   (b) Enthusiast
    (c) Novice   (d) Master

SECTION B: हिन्दी

16. 'श्याम कल मुम्बई जाएगा'वाक्य में कौन–सा काल है?
    (a) भूतकाल   (b) भविष्यत् काल
    (c) वर्तमानकाल   (d) उपरोक्त में से कोइ ंनहीं
17. 'समुद्र अधिक गहरा है'इस वाक्य का शुद्ध रूप क्या है?
    (a) समुद्र बड़ा गहरा है
    (b) समुद्र अधिकांश गहरा है
    (c) समुद्र बहुत गहरा है
    (d) समुद्र की गहराई अधिक ज्यादा है
18. 'सजीव'का विलोम शब्द होगा
    (a) निर्जीव   (b) अजीव
    (c) परजीव   (d) इनमें से कोईनहीं
19. 'भवन–भुवन'भिन्नार्थक शब्दों के उचित युग्मों का चयन कीजिए।
    (a) मकान–संसार   (b) पराक्रम–ग्रन्थ
    (c) मकान–घर   (d) हंस–घर

निर्देश (प्र.सं. 20-24)दिए गए अनुच्छेद को ध्यान पूर्वक पढिए और उससे सम्बन्धित प्रश्नों के उत्तर दीजिए।

सच्चे वीर अपने प्रेम के जोर से लोगों को सदा के लिए बाँध देते हैं।वीरता की अभिव्यक्ति कई प्रकार से कभी लड़ने–मरने से, खून बहाने से, तोपतलवार के सामने बलिदान करने से, तोकभी जीवन के गूढ़ तत्त्व और सत्य की तलाश में बुद्ध जैसे राजा विरक्त होकर वीर हो जाते हैं।वीरता एक प्रकार की अन्तः प्रेरणा है।जब कभी उसका विकास हुआ तभी एक रौनक, एक रंग, एक बहार संसार मे ंछागई।वीरता हमेशा निराली और नई
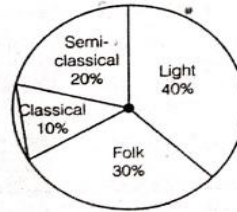
होती है, वीरों को बनाने के कार खाने नहीं होते, वे तो देवदार के वृक्ष की भाँति जीवन रूपी वन में स्वयं पैदा होते हैं और बिना किसी के पानी दिए, बिना किसी के दूध पिलाए बढ़तेहैं।"जीवन के केन्द्र में निवास करो और सत्य की चट्टान पर दृढ़ता से खड़े हो जाओ।बाहर की सतह छोड़कर जीवन के अन्दर की तहों मे पहुँचे तब नए रंग खिलेंगे।" यही वीरता का सन्देश है।

20. वीरता कैसी प्रेरणा है?
    (a) अन्तः   (b) बाह्य
    (c) फलित   (d) ये सभी
21. देवदार वृक्ष से किसकी तुलना की गइ ंहै?
    (a) खाने–पीने की   (b)वीरों की
    (c) मनुष्य की   (d)वीरता की
22. निम्नलिखित में से कौन–सा रूप वीरता का नहीं है?
    (a) क्रोध   (b) युद्ध
    (c) त्याग   (d)दान
23. वीरता का एक विशेष लक्षण है
    (a) नयापन   (b)नकल
    (c) हास्य   (d)करूणा
24. वीरता का सन्देश क्या है?
    (a) यह संकल्प कि किसी भी हालत में युद्ध जीतना है
    (b) बुद्ध जैसे राजा की भाँति विरक्त होना
    (c) उद्देश्य के लिए सच्चाई पर चट्टान की तरह अटल रहना
    (d) हमेशा नया और निराला रहना

25. 'लोहे के चनेचबाना' मुहावरे का अर्थ है।
    (a) कठिन कार्य करना
    (b) अधिक परेशान करना
    (c) चने चबाना
    (d) उपरोक्त में से कोई नहीं

26. 'अतिथि' का पर्यायवाची है
    (a) भगवान   (b) विकास
    (c) वसन   (d) आगन्तुक

27. 'जिसके समान कोई दूसरा न हो' के लिए एक शब्द है
    (a) अचल   (b) अद्वितीय
    (c) अनगिनत   (d) अभिज्ञ

28. निम्न में कौन–सा शब्द शुद्ध है
    (a) अविषकार   (b) आविषकार
    (c) आविष्कार   (d) अवनिषकार

29. उत्पत्ति के आधार पर शब्द के कितने प्रकार होते हैं?
    (a) तीन   (b) चार
    (c) एक   (d) दो

30. विशेषण जिस संज्ञा या सर्वनाम शब्द की विशेषता बताते हैं, उन्हें....... कहते हैं।
    (a) विशेष्य
    (b) गुणवाचक विशेषण
    (c) संख्यावाचक विशेषण
    (d) परिमाणवाचकवि शेषण

SECTION B: MATHEMATICS

31. The difference in the measures of two complementary angles is 12°, then the measures of the angles, are
    (a) 51°, 39°   (b) 60°, 30°
    (c) 45°, 45°   (d) 51°, 51°

32. The surface area of a sphere of diameter 14 cm, is
    (a) 166 cm²   (b) 196 cm²
    (c) 661 cm²   (d) 616 cm²

33. The sum of three consecutive even numbers is 138, then the greatest of these numbers is
    (a) 44   (b) 46
    (c) 42   (d) 48

34. The factorisation of $84 - 2r - 2r^2$, is
    (a) $(6-r)(r+7)$ (b) $(7-r)(r+6)$
    (c) $2(6-r)(r+7)$ (d) $2(7-r)(r+7)$

35. If $\frac{x^2+y^2}{x^2-y^2} = \frac{17}{8}$, then the value of $x:y$ is
    (a) 3:5   (b) 5:3
    (c) 3:8   (d) 5:8

Directions (Q. Nos. 36 and 37) A pie chart is given below

People like different type of music

36. Which type of music is liked by the maximum number of people?
    (a) Semi-Classical   (b) Classical
    (c) Light   (d) Folk

37. If a cassette company were to make 1000 CD'S, how many of semi-classical and folk would they make?
    (a) 200, 400   (b) 100, 300
    (c) 200, 300   (d) 100, 400

38. The value of $\frac{\sqrt{24}+\sqrt{216}}{\sqrt{96}}$, is
    (a) 8   (b) 6
    (c) 4   (d) 2

39. Navin purchased a cellphone for Rs 12000 and sold it for Rs 8000, then his loss per cent, is
    (a) 30%   (b) 33%
    (c) $33\frac{1}{3}$%   (d) $34\frac{1}{3}$%

40. The value of $(3x + 2y)^2 + (3x - 2y)^2$, is
    (a) $9x^2 + 4y^2$ (b) $18x^2 + 8y^2$
    (c) $12xy$ (d) $24xy$

41. There are two rectangular flower beds of size $1.5\,m \times 2m$ each in the park as shown in the given figure and the rest

has grass on it, then the area covered by grass, is
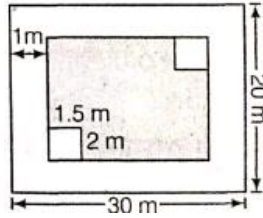
(a) 498 m²   (b) 948 m²

(c) 894 m²   (d) 849 m²

42. If $5^{3x-1} \div 25 = 125$, then the value of x, is

(a) 4   (b) 3

(c) 2   (d) 1

43. A car is travelling 60 km in 2 h, then the distance travelled by the car in 6h, if the speed remains constant, is

(a) 60 km   (b) 120 km

(c) 180 km   (d) 240 km

44. If $x - \frac{1}{x} = 7$, then the value of $x^2 + \frac{1}{x^2}$, is

(a) 49   (b) 50

(c) 51   (d) 52

45. A pair of integers whose product is -36 and whose difference is 15, is

(a) −3, 12   (b)−12, 3

(c) 9, −4   (d) 4, −9

46. The HCF of $\frac{12}{7}, \frac{18}{7}, \frac{24}{7}$, is

(a) 12/7   (b) 6/7

(c) 4/7   (d) 3/7

47. By prime factorisation, the value of the cube root of 5832, is

(a) 16   (b)17

(c) 18   (d) 19

48. If two interior angles on the same side of a transversal intersecting two parallel lines are in the ratio 3:2, then the greater of the two angles, is

(a) 72°   (b)36°

(c) 108°   (d)44°

49. The nature of $(-5 + 2\sqrt{5} - \sqrt{5})$ is

(a) natural   (b) integer

(c) rational   (d) irrational

50. If the total surface area of a cube is 486 cm², then its lateral surface area,

(a) 243 cm²   (b) 342 cm²

(c) 324 cm²   (d) 432 cm²

51. In the following figure, then the value of $2x$, is
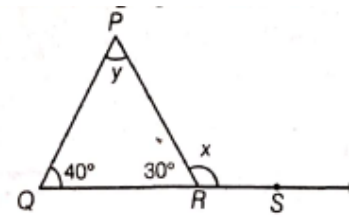

(a) 300°   (b) 200°

(c) 100°   (d) 50°

52. For what value of x, the perimeter of shape is 77 cm?
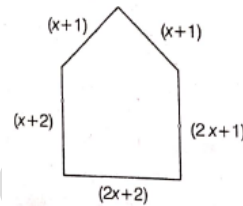
(a) 14 cm   (b) 12 cm

(c) 10 cm   (d) 8 cm

53. If $p(x) = x^3 - 4x^2 + x + 6$, then the value of $p(3)$ is

(a) 27   (b) 10

(c) 4   (d) 0

54. If $a:b = 5:3$, then the value of $(5a + 8b):(6a - 7b)$, is

(a) 9:49   (b) 49:9

(c) 11:50   (d) 50:11

55. If you have a spinning wheel with 3 green sectors, 5 black sectors and 10 red sectors, then the probability of getting a non-black sector, is

(a) $\frac{1}{9}$ (b)$\frac{1}{6}$

(c) $\frac{5}{9}$ (d)$\frac{13}{18}$

56. The value of $\sqrt{248 + \sqrt{52 + \sqrt{144}}}$, is

(a) 17   (b) 16

(c) 15   (d) 14

57. Find the compound interest on Rs 48000 for one year at 8% per annum, when compounded half-yearly.

(a) Rs 51916   (b) Rs 51916.80

(c) Rs 3916.80   (d) Rs 3910.80

58. If lemons were bought at Rs 48 per dozen and sold at the rate of Rs 48 per 10, then the gain or loss per cent, is
    (a) 40% profit   (b) 40% loss
    (c) 20% profit   (d) 20% loss

59. The alongside figure shows the dimensions of a wall having a window and a door of a room. Then, the algebraic expression for the area of the wall to be painted, is
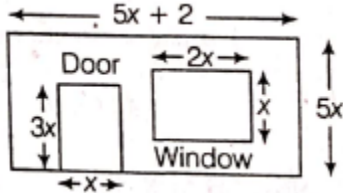
    (a) $x(2x + 1)$ sq unit
    (b) $2x(x + 1)$ sq unit
    (c) $10x(2x + 1)$ sq unit
    (d) $(x + 1)$ sq unit

60. The value of the angles x, y and z are respectively, (see figure)

    (a) 115°, 140°, 40° (b) 40°, 140°, 115°
    (c) 140°, 40°, 115° (d) 115°, 40°, 140°

61. If some migratory birds travel as much as 15000 km to escape the extreme climatic conditions at home, then the distance in meters using scientific notation, is
    (a) $1.5 \times 10^4 \, m$ (b) $1.5 \times 10^5 \, m$
    (c) $1.5 \times 10^6 \, m$ (d) $1.5 \times 10^7 \, m$

62. 30 persons can reap a field in 17 days. How many more persons should be engaged to reap the same field in 10 days?
    (a) 17   (b) 30
    (c) 51   (d) 21

63. A negative integer and a positive integer whose difference is +2, are
    (a) −1, 3   (b) −2, 4
    (c) −1, 1   (d) −4, 6

64. Six bells begin to toll together at the interval of 10s, 15sec, 20sec, 25sec, 30sec, 35sec respectively, then how many times will they toll together in the span of 7 h?
    (a) 12   (b) 10
    (c) 8   (d) 6

65. Difference of two perfect cubes is 189. If the cube root of the smaller of the two numbers is 3, the cube root of the larger number, is
    (a) 27   (b) 36
    (c) 9   (d) 6

SECTION D: GENERAL SCIENCE

66. During dry weather while combing hair, sometimes we experience hair flying apart. The force responsible for this is
    (a) force of gravity
    (b) electrostatic force
    (c) force of friction
    (d) magnetic force

67. On heating one end of iron rod, other end also gets heated. Such materials are called
    (a) good conductor of heat
    (b) good insulator of heat
    (c) bad conductor of heat
    (d) heater

68. Which one records the distance travelled by a vehicle?
    (a) Speedometer   (b) Manometer
    (c) Motometer(d) Odometer

69. The pressure exerted by liquid due to increase in depth
    (a) reduces
    (b) increases
    (c) remains same
    (d) depends on the nature of liquid

70. Which of the following is not always necessary to observe a shadow?
    (a) Sun
    (b) Screen
    (c) Source of light
    (d) Opaque object

71. The objects which partially allow the light to pass through it are called
    (a) transparent (b) luminous
    (c) opaque   (d) translucent

72. Which of the following can never form a circular shadow?
    (a) A ball
    (b) A flat disc
    (c) A shoe box
    (d) An ice-cream cone

73. Bouncing back of ray of light from shining surface on which it was incident is known as
    (a) refraction   (b) bending
    (c) reflection   (d) dispersion

74. The normal range of vocal cords in women is
    (a) 20 mm   (b) 10 mm
    (c) 15 mm   (d) 40 mm

75. The loudness of sound is determined by its
    (a) amplitude of vibration
    (b) ratio of amplitude and frequence of vibration
    (c) frequency of vibration
    (d) product of amplitude and frequency of vibration

76. Pick the synthetic fibre out of the following.
    (a) Cotton   (b) Nylon
    (c) Jute   (d) Wool

77. Wool fibre cannot be obtained from which of the following?
    (a) Goat   (b)Liama
    (c) Alpaca   (d) Moth

78. Phenolphthalein is a synthetic indicator and its colours in acidic and basic solutions respectively are
    (a) red and blue
    (b) blue and red
    (c) pink and colourless
    (d) colourless and pink

79. Which of the following is not a common property of plastics?
    (a) Non-reactive
    (b)Light in weight
    (c) Durable
    (d) Good conductor of electricity

80. Choose the correct statement form the following.

(a) It is difficult to transport natural gas through pipes

(b) The disadvantage of natural gas is that it cannot be used directly for burning in homes

(c) Natural gas is stored under high pressure as compressed natural gas

(d) Natural gas cannot be used for power generation

81. If a person's clothes catch fire, the best way to extinguish the fire is to
    (a) throw water on the clothes
    (b) use fire extinguisher
    (c) cover the person with a woolen blanket
    (d) cover the person with a polythene sheet

82. Turmeric is a natural indicator. On adding its paste to acid and base separately which colours would be observed?
    (a) Yellow in both acid and base
    (b) Yellow in acid and red in base
    (c) Pink in acid and Yellow in base
    (d) Red in acid and blue in base

83. Which of the following is not a plastid?
    (a) Chloroplast   (b) Chromoplast
    (c) Leucoplast   (d) Ribosome

84. Which of these does not prevent growth of bacteria?
    (a) Salt   (b) Oil
    (c) Sugar   (d) Water

85. Potable water is the water which is
    (a) obtained from a river
    (b) obtained from a lake
    (c) pure and fit for drinking
    (d) used only for washing clothes

86. Scientist who discovered the fermentation
    (a) Alexander Fleming
    (b) Louis Pasteur
    (c) Johann Mendel
    (d) Charles Darwin

87. Given below is a list of edible plants.
    (i) Banana   (ii) Pumpkin
    (iii) Lady finger   (iv) Brinjal
    Which pair of plants has two or more edible parts?
    (a) (i) and (ii)   (b) (ii) and (iii)
    (c) (ii) and (iv)   (d) (i) and (iv)

88. Cyanocobalamin is vitamin
    (a) B_{12} (b) B_1
    (c) B_2 (d) K

89. Minerals and vitamins present in food are
    (a) protective   (b) energy giving
    (c) body building   (d) roughage

90. The most common carrier of communicable diseases is
    (a) ant   (b) housefly
    (c) dragonfly   (d) spider

91. Pathogenic microorganisms present in host cells are killed by medicines called
    (a) pain killer   (b) antibodies
    (c) antibiotics   (d) vaccines

92. Which of the following reproduces only inside a host cell?
    (a) Bacteria   (b) Virus
    (c) Amoeba   (d) Fungus

93. Adisease in human beings caused by virus is
    (a) typhoid   (b) influenza
    (c) dysentery   (d) cholera

94. Carrot and radish food obtained from plants are examples of
    (a) stem   (b) roots
    (c) leaves   (d) flowers

95. Diseases occurring due to the deficiency of one or other nutrients is called
    (a) dietary disease
    (b) chronic disease
    (c) deficiency disease
    (d) transmitted disease

96. Carbohydrates can be tested by using which of the following?
    (a) Iodine
    (b) Caustic soda
    (c) Copper sulphate

(d) Fehling's solution

97. The bread or idli dough rises because of
    (a) heat
    (b) grinding
    (c) growth of yeast cells
    (d) kneading

98. Read the food items gives below.
    (i) Wheat   (ii) Ghee
    (iii) Iodised salt   (iv) Spinach (palak)
    Which of the above food items are
    energy giving foods?

    (a) (i) and (iv)   (b) (ii) and (iv)
    (c) (i) and (ii)   (d) (iii) and (iv)

99. The male parts of the flower are called
    (a) pistils   (b) carpels
    (c) stamens   (d) styles

100. The swollen part at the base of a flower
     from which the whorls of the flower
     radiate is called the
     (a) thalamus   (b) pedicel
     (c) pistil   (d) carpel